



Reclamation Research Unit

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Date: July 28, 2006

To: Sue Sillick

From: Stuart Jennings

Re: Progress Report 12. *Evaluation of Organic Matter Addition and Incorporation on Steep Cut slopes, Phase II: Test Plot Construction and Performance Monitoring*

The twelfth progress report of Phase II of the above referenced project is attached. The narrative describes work occurring between April 1, 2006 and June 30, 2006.

Quarterly Progress Report #12
For the period April 1, 2006 – June 30, 2006

**EVALUATION OF ORGANIC MATTER ADDITION
AND INCORPORATION ON STEEP CUT SLOPES**

***Phase II: Test Plot Construction and
Performance Monitoring***

Prepared For:

Montana Department of Transportation
P.O. Box 201001
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Prepared By:

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July 2006

Task Analysis and Discussion

Field monitoring of research plots at both Happys Inn and Miles City occurred during the second quarter of 2006. Vegetation and erosion assessments were completed. The Billings Land Reclamation Symposium was held in June 2006 and included a field trip to the Miles City research site and presentation of preliminary findings from the project.

Task I—Site Sampling

Soil samples submitted for laboratory analysis during late 2005 were analyzed by the MSU Soil Testing Lab for determination of fertility levels (N, P and K) as well as organic matter content. Saturated paste extracts and determination of soil pH and electrical conductivity was performed in the Reclamation Research Unit Laboratory. Most of these data were available during the first quarter of 2006, but the organic matter content levels were received during the second quarter.

Task L – Monitoring—3rd Year

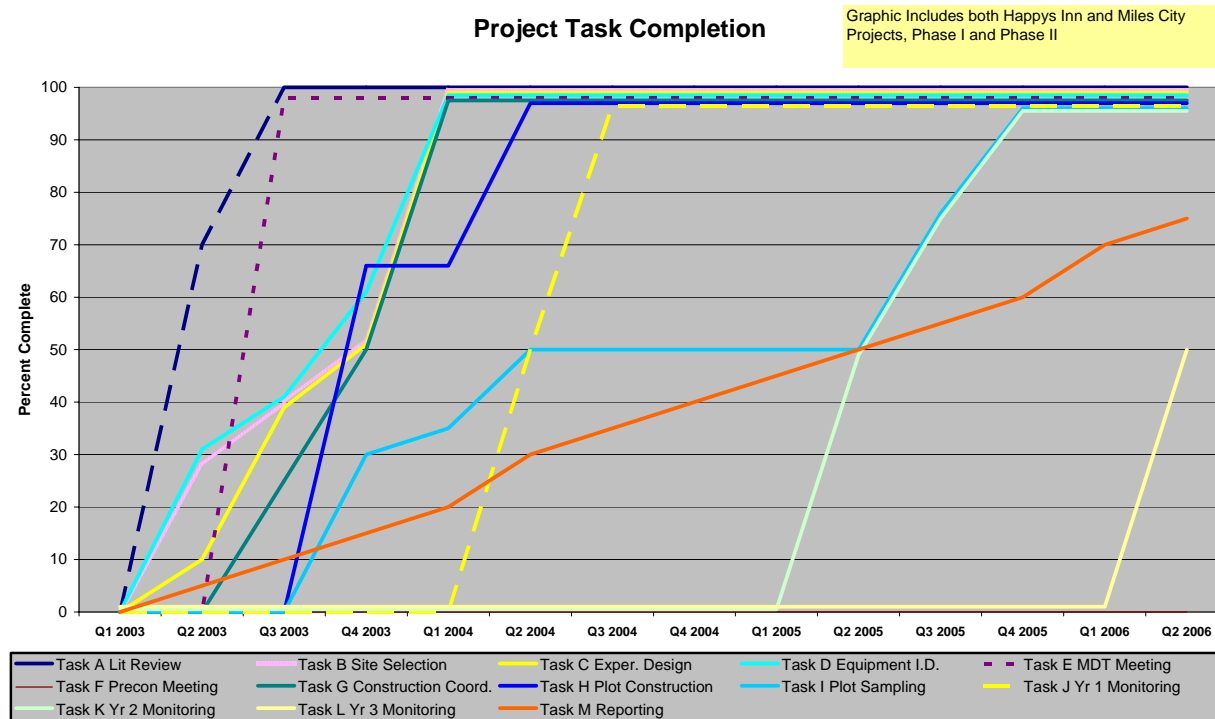
Spring assessments of the vegetation and erosion condition of research plots was performed during May 2006. Vegetation was actively growing at both research sites reflecting favorable late winter-early spring precipitation. Vegetation condition at the Miles City site was dominated by annual grasses and weedy forbs. Vegetation condition at the Happys Inn site was dominated by perennial grasses seeded at the time of plot construction. All compost treatments have persisted and show good vegetation development and limited erosion compared to the control plots lacking compost which are sparsely vegetated and eroded. A final assessment of the research plots will be conducted during the third quarter of 2006.

Task M - Reporting

This twelfth quarterly report satisfies the periodic reporting requirement of the contract. Additionally, work on the final report was performed during the recent quarter in preparation of a technical paper. The data were synthesized into a manuscript for the Billings Land Reclamation Symposium. The paper is titled “Native Plant Establishment on Highway Cut Slopes using Compost Application” and includes some of the preliminary findings from this research project. Phil Johnson of the Montana Dept. of Transportation was a member of the coordinating committee for this conference. The paper was presented in June 2006 by Pam Blicher. Phil Johnson and Stuart Jennings also conducted a fieldtrip in association with the Symposium on Roadside Revegetation of Selected Sites in Eastern Montana. The Miles City test plots were featured in this tour.

Schedule and Degree of Completion—all research sites

<i>Task Description</i>	<i>Budgeted Total Phase II</i>	<i>Proposed Schedule</i>	<i>Actual Schedule</i>	<i>Degree of Completion</i>	<i>Estimated Expenditure during current quarter</i>
Task B Site Reconnaissance	\$678	Q3, 2003	Q3 2003, and Q1 2004	100%	0
Task C Experimental Design	\$407	Q4, 2003	Q4 2003, and Q1 2004	100%	0
Task G Construction Schedule Coordination	\$377	Q3, 2003	Q1, 2004	100%	0
Task H Plot Construction	\$36,087	Q4, 2003	Q4, 2003	100%	0
Task I Site Sampling	\$8761	Q4, 2003 and Q3 2005	Q4, 2003 Q3,Q4 2005	100%	0
Task J Year 1 Monitoring	\$13,083	Spring and Fall, 2004	Spring and Fall, 2004	100%	0
Task K Year 2 Monitoring	\$15,912	Spring and Fall, 2005	Spring and Fall, 2005	100%	0
Task L Year 3 Monitoring	\$16,065	Spring and Fall, 2006	Spring and Fall, 2006	50%	\$8,000
Task M Reporting	\$16,380	Quarterly and Final Report, Fall 2006	ongoing	75%	\$3,800



Problems and Resolution

No problems were encountered during the current quarter. The poor vegetation condition observed at the Miles City test plots is a disappointment, but may most closely be linked with drought during the first growing season. The compost treatments at Miles City have been successful in controlling erosion, yet with the exception of one treatment perennial grasses seeded have not persisted well.

Accomplishments

A presentation at the Billings Land Reclamation Symposium was made by Pam Blicher that includes preliminary findings from this research project.

Fiscal Expenditure

Amount Spent by budget category:

<i>Cost Category</i>	<i>Spent prior to current quarter (\$)</i>	<i>Spent during the current quarter (\$)</i>	<i>Total spent to date (\$)</i>
Labor and Benefits	\$51,374	\$7886	\$59,260
Operational Expenses	\$7724	\$1513	\$9237
Subcontracted Services	\$16,764	0	\$16,764
Indirect Charges	\$14,024	\$2445	\$16,469
<i>Total Spent</i>	<i>\$89,886</i>	<i>\$11,844</i>	<i>\$101,730</i>

Total Project Award \$108,975 (original budget) + \$9031 (modification April 2004)
 \$118,006 (total award)

Amount Remaining \$16,276